

FIG. 1

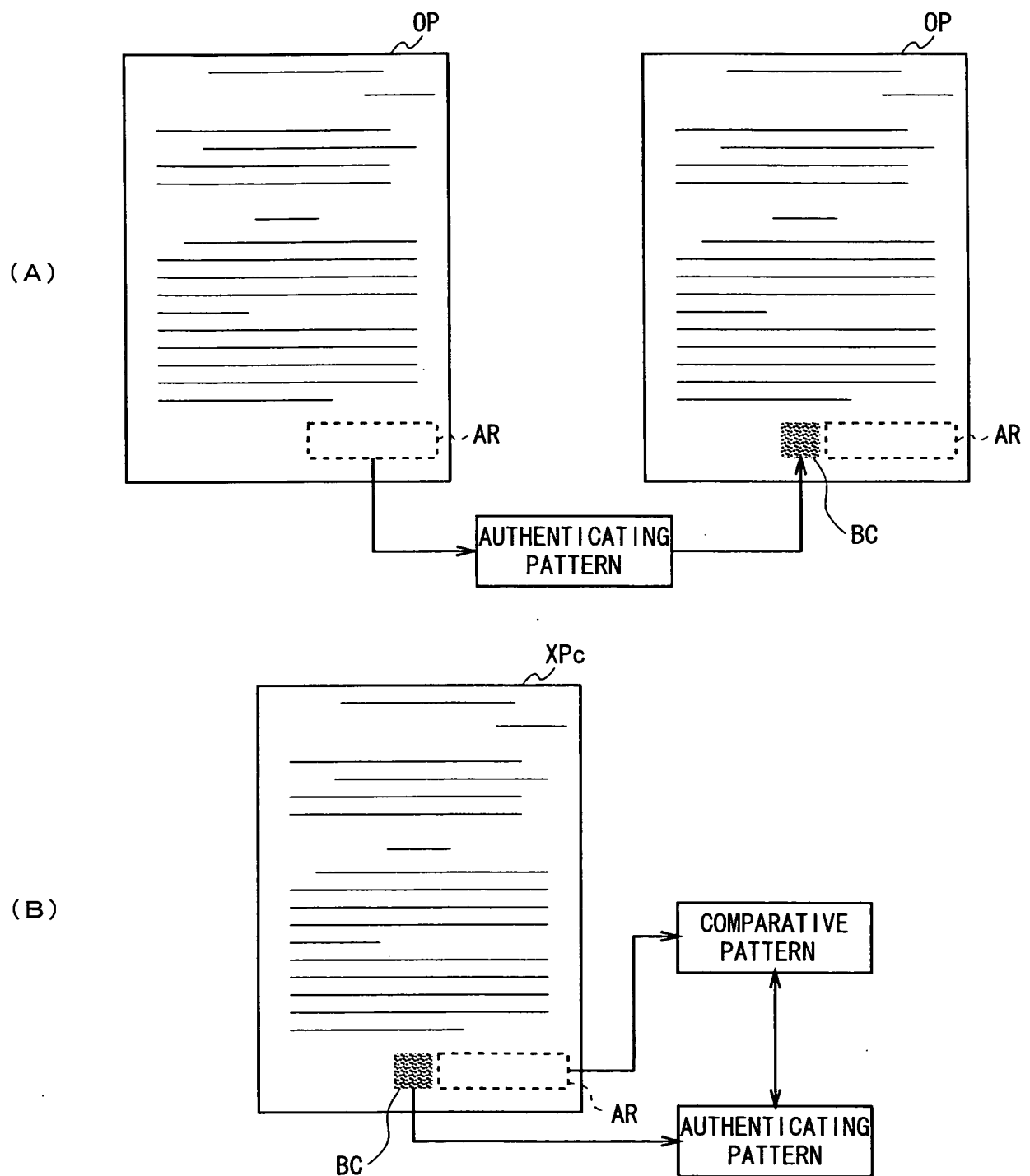


FIG. 2

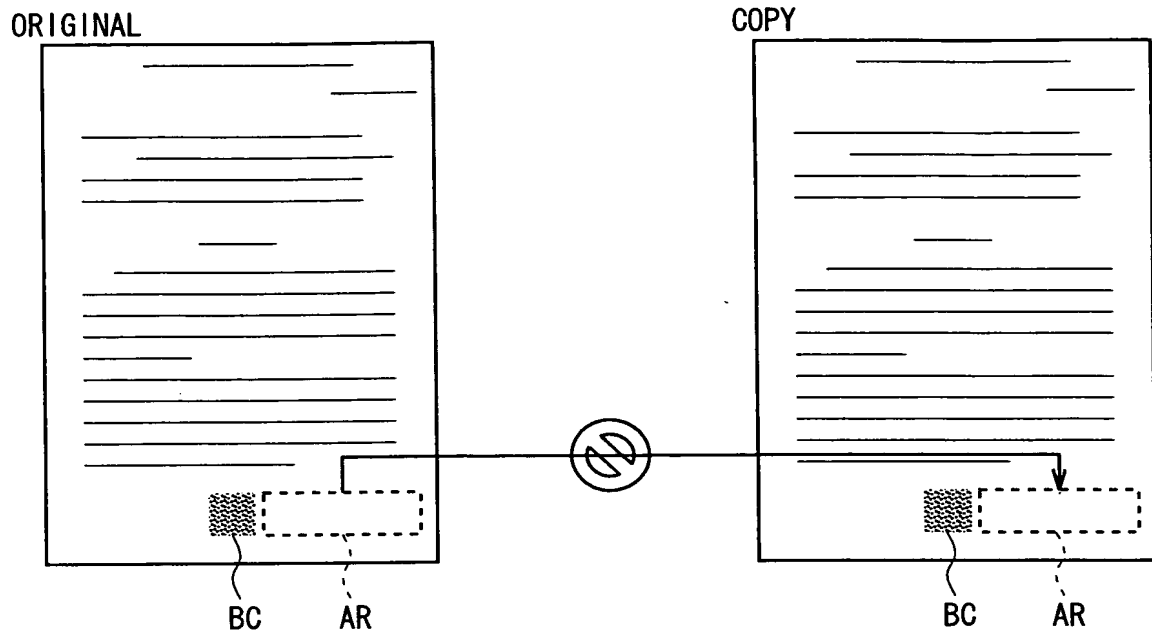


FIG. 3

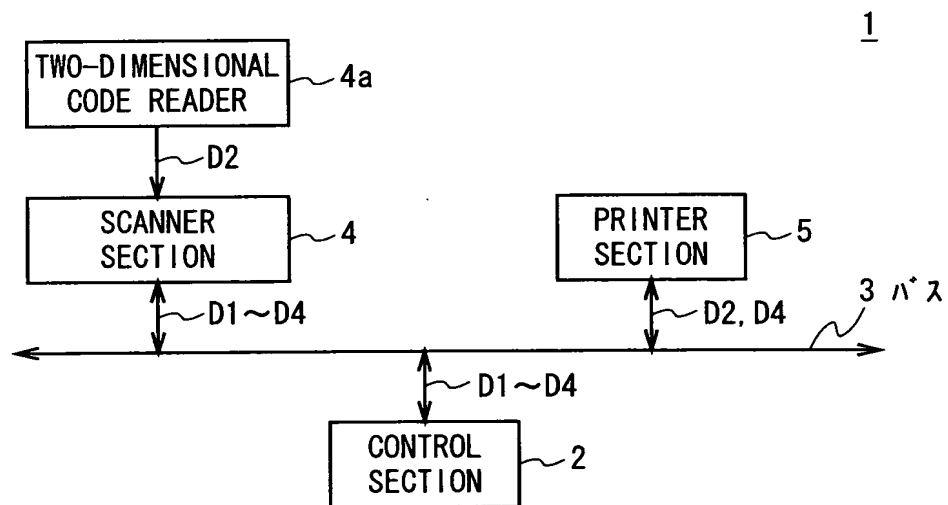


FIG. 4

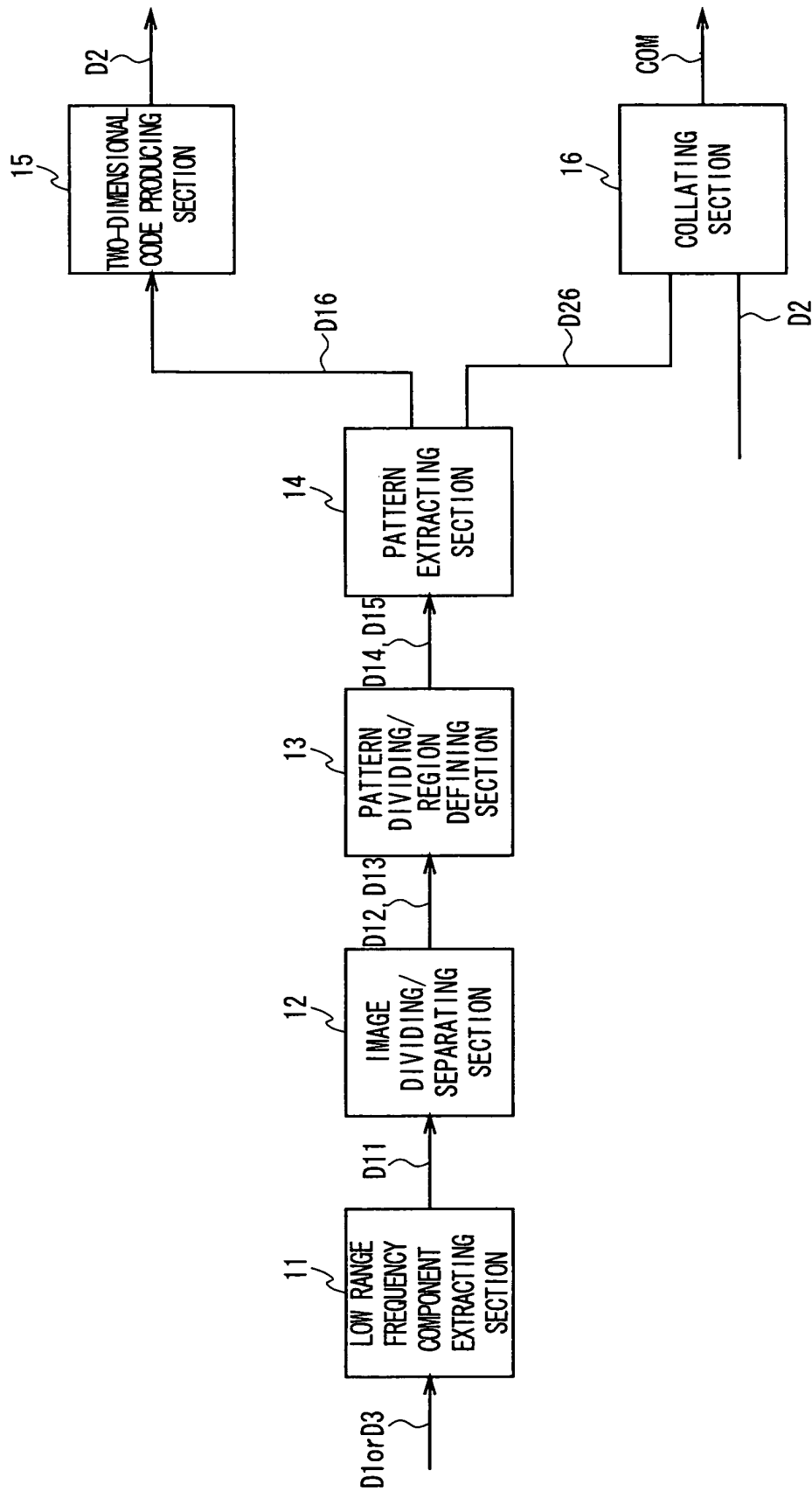


FIG. 5

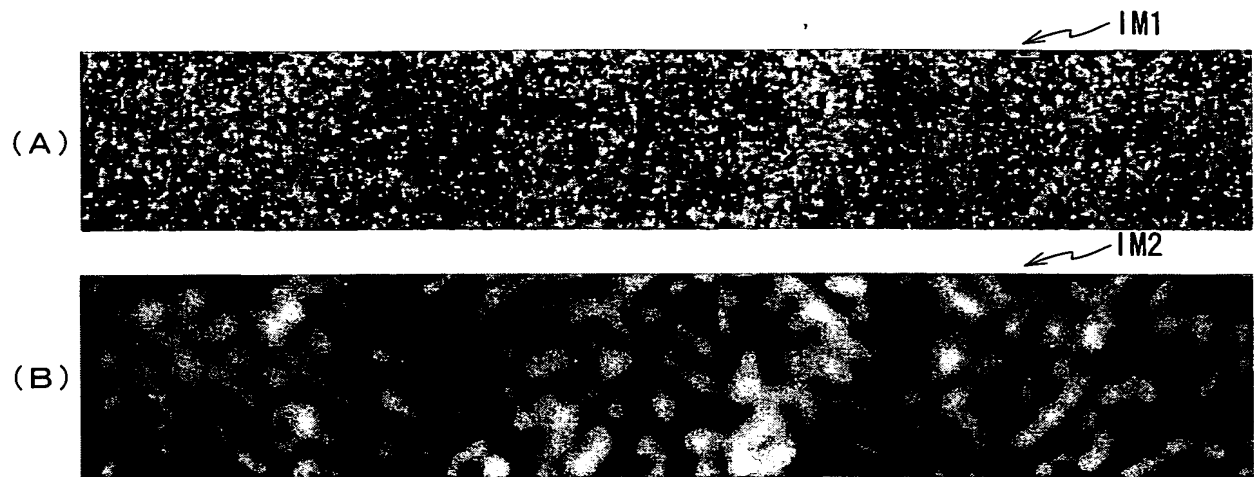


FIG. 6

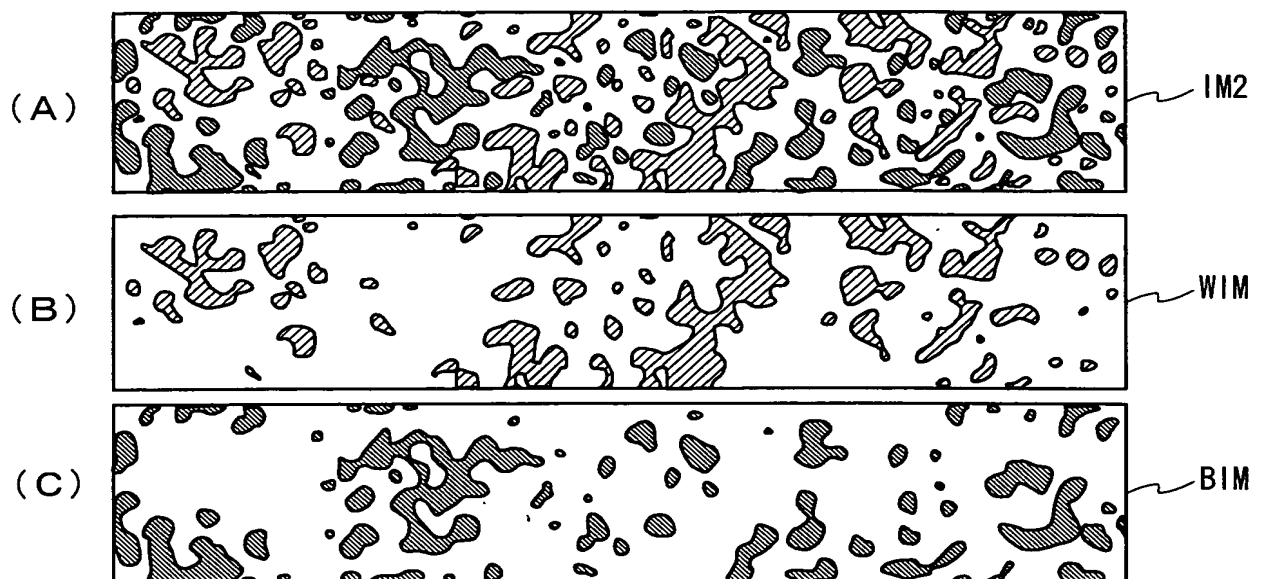


FIG. 7

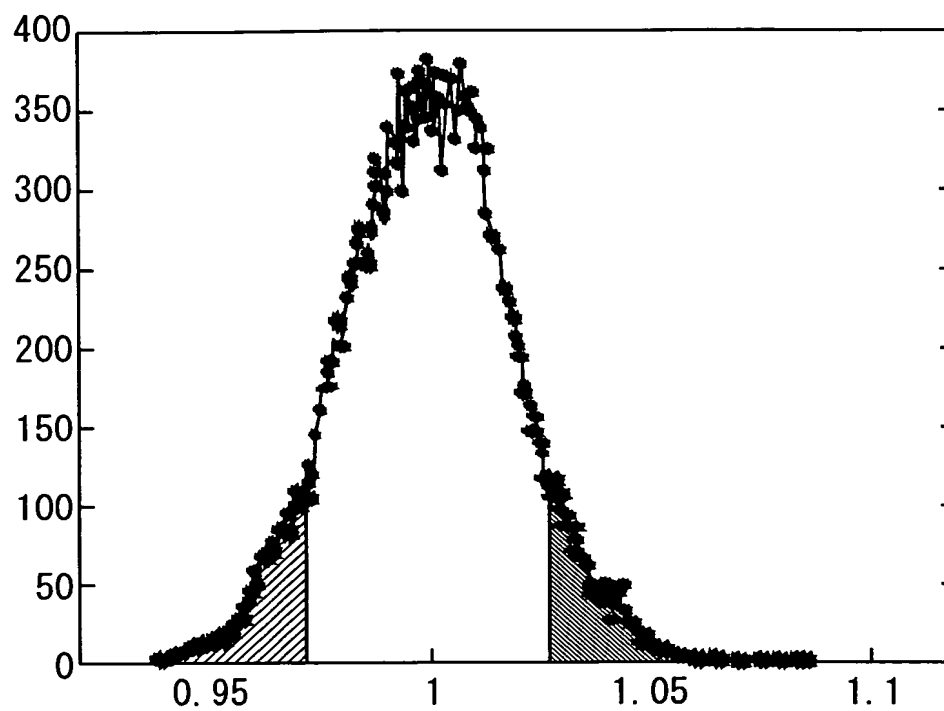
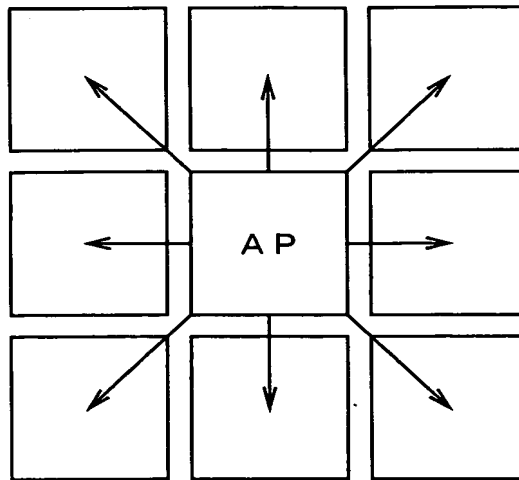


FIG. 8

(A)



(B)

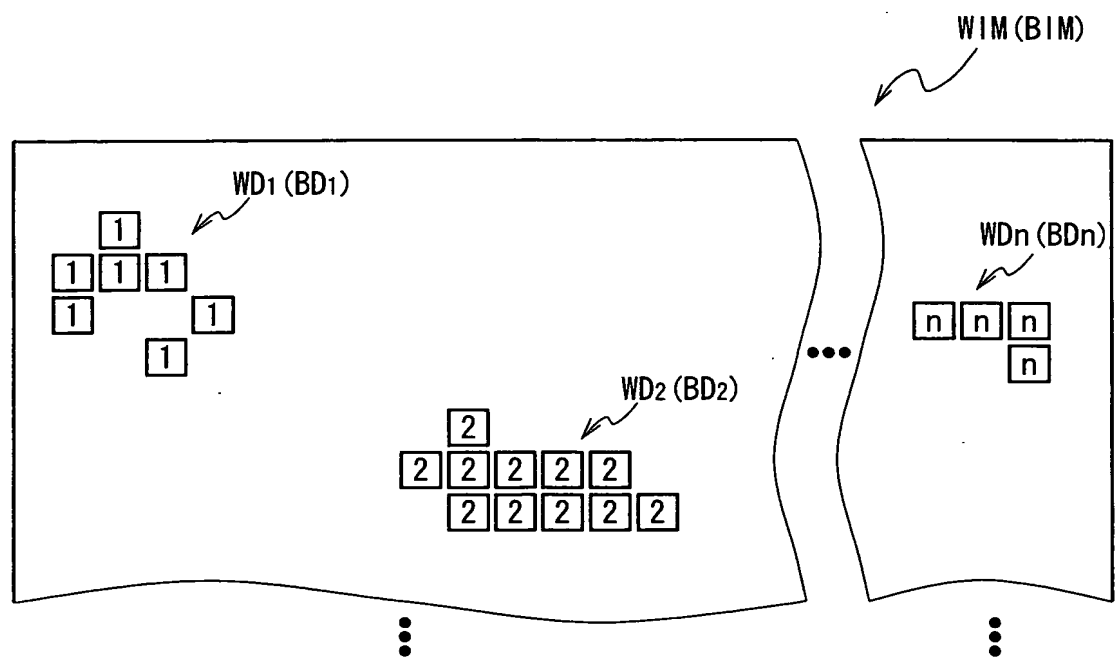


FIG. 9

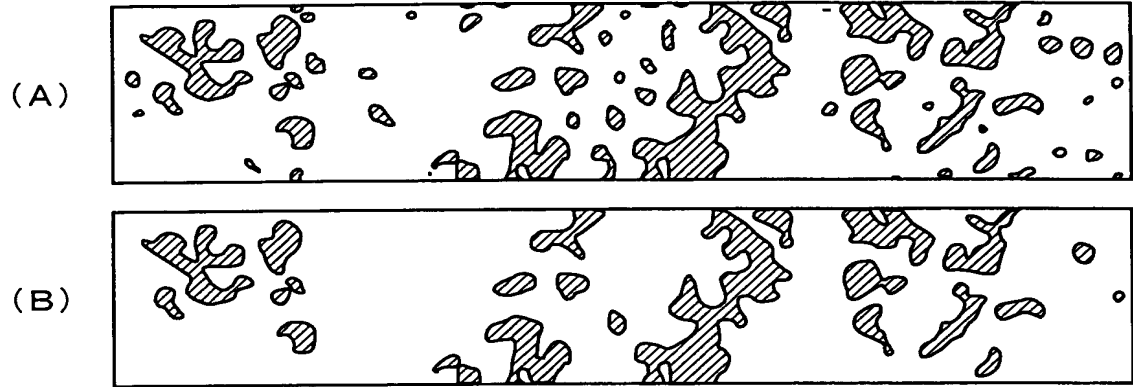


FIG. 10

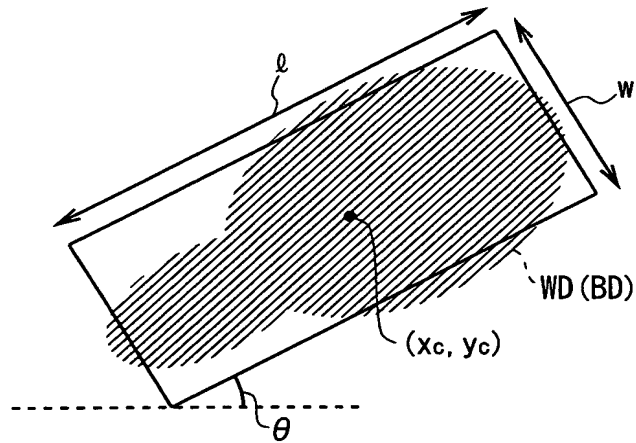


FIG. 11



(A)

	RANGE OF DATA	DATA SIZE
COORDINATE OF THE CENTER ( $x_c, y_c$ )	0~1023	2 × 16bit
LONG SIDE $\ell$	0~1023	16bit
SHORT SIDE $w$	0~1023	16bit
ANGLE BETWEEN THE LONG SIDE AND THE AXIS $\theta$	-90~90	8bit
	TOTAL	72bit

(B)

	AVERAGE	MAXIMAM	MINIMUM
WHITE DOMAIN	24.7	30	21
BLACK DOMAIN	23.6	30	15
TOTAL	48.3	56	41
SIZE	435byte	504byte	369byte

FIG. 12

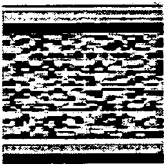
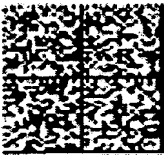


	PDF417	DATAMATRIX	MAXICODE	QR CODE
				
DEVELOPMENT COUNTRY	SYMBOL (US)	CI MATRIX (US)	URS (US)	DENSO (JN)
QUANTITY OF DATA	NUMBER	3, 116	138	2, 710
	ALPHANUMERIC	2, 355	93	4, 296
	BINARY	1, 556	-	2, 953
	CHINESE CHARACTER	778	-	1, 8
MAIN CHARACTER	LARGE-VOLUME DATA	SMALL-FOOTPRINT	HIGH SPEED READ	LARGE-VOLUME SMALL-FOOTPRINT LARGE-VOLUME DATA
MAIN PURPOSE	OA	FA	COMMODITY DISTRIBUTION	FULL FIELD
STANDARDIZATION	ISO AIM INTERNATIONAL	ISO AIM INTERNATIONAL	ISO AIM INTERNATIONAL	ISO JIS AIM INTERNATIONAL

FIG. 13

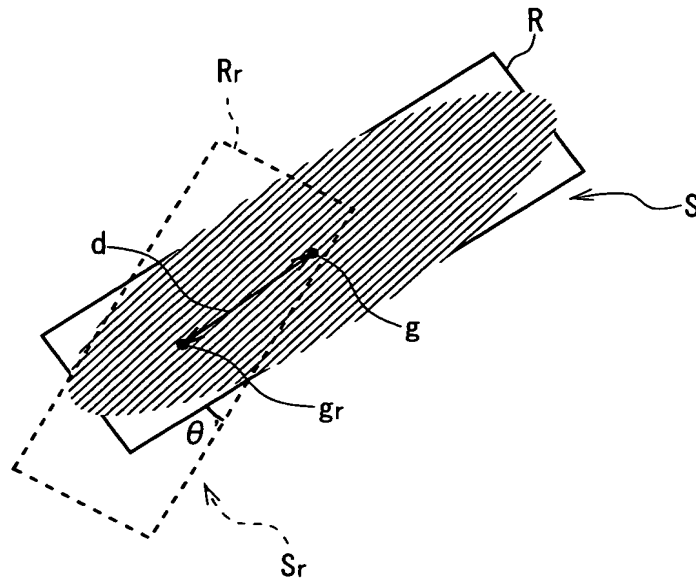


FIG. 14

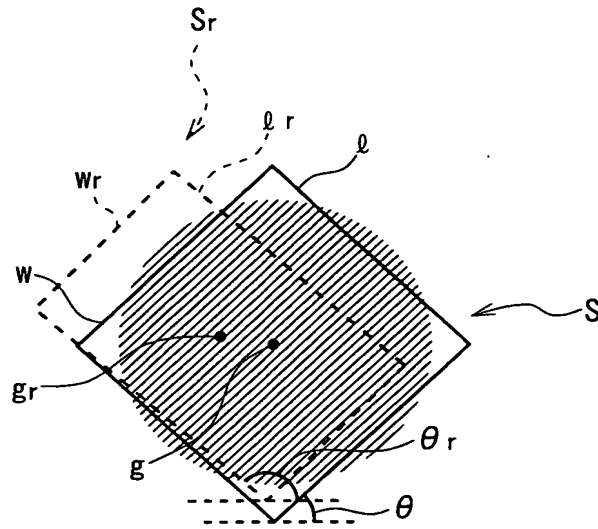


FIG. 15

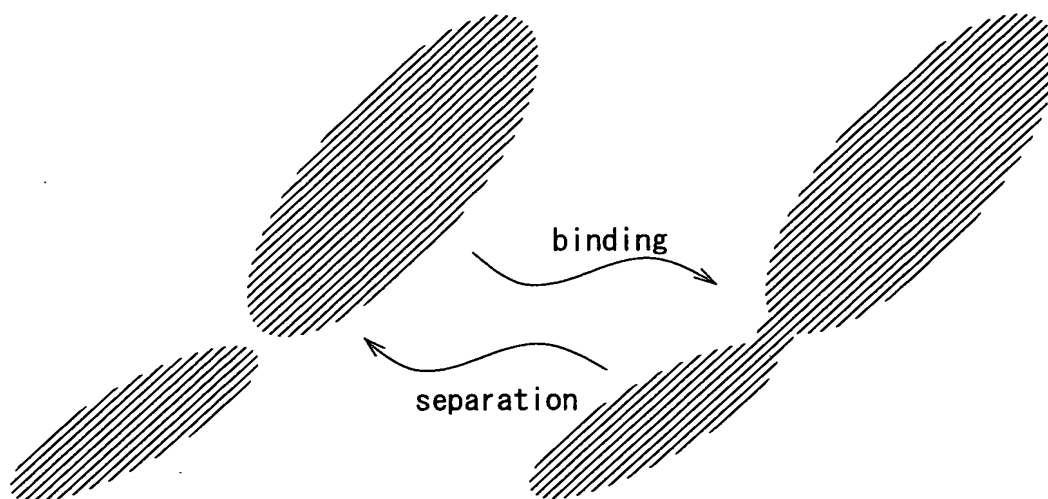


FIG. 16

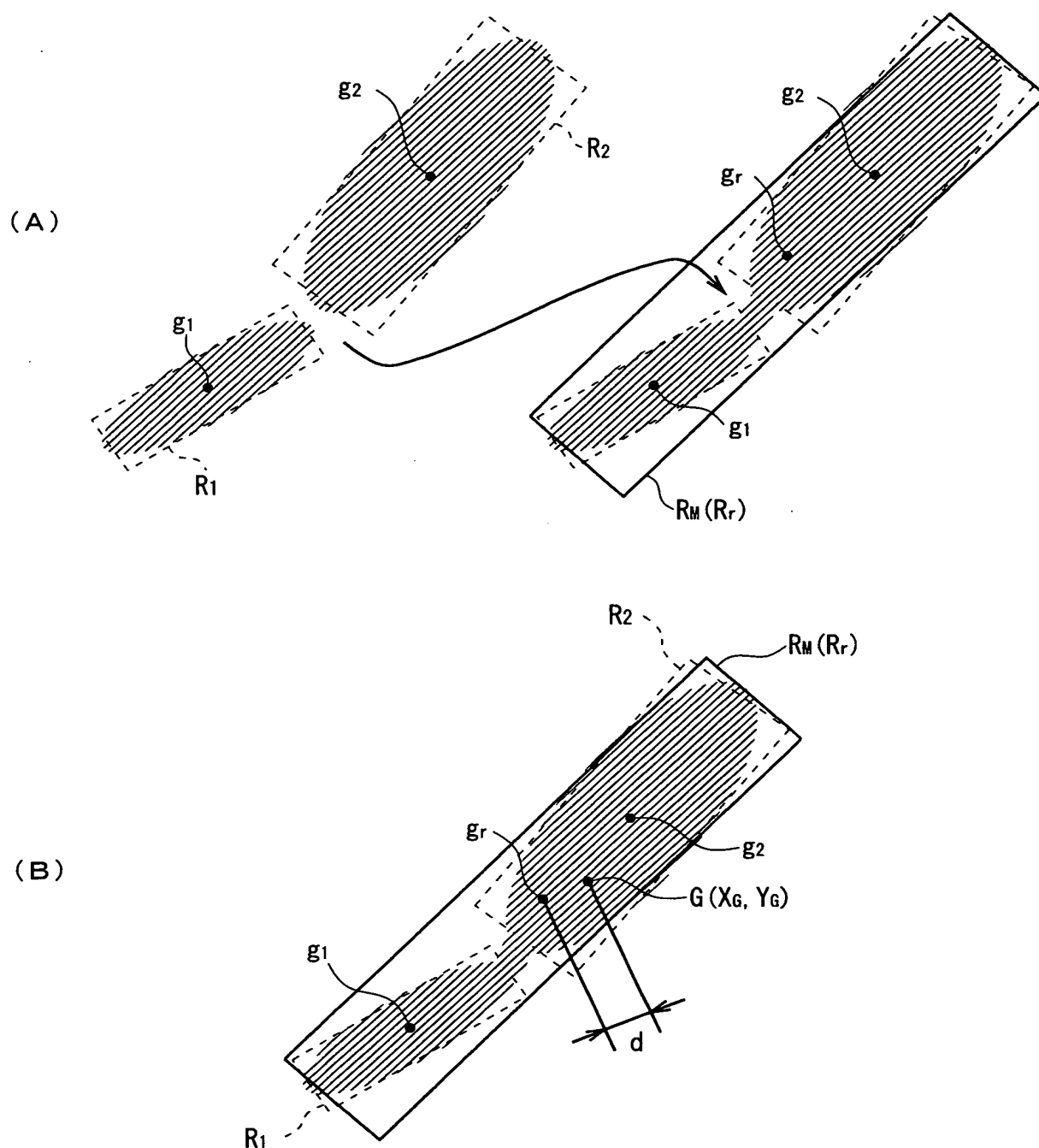


FIG. 17

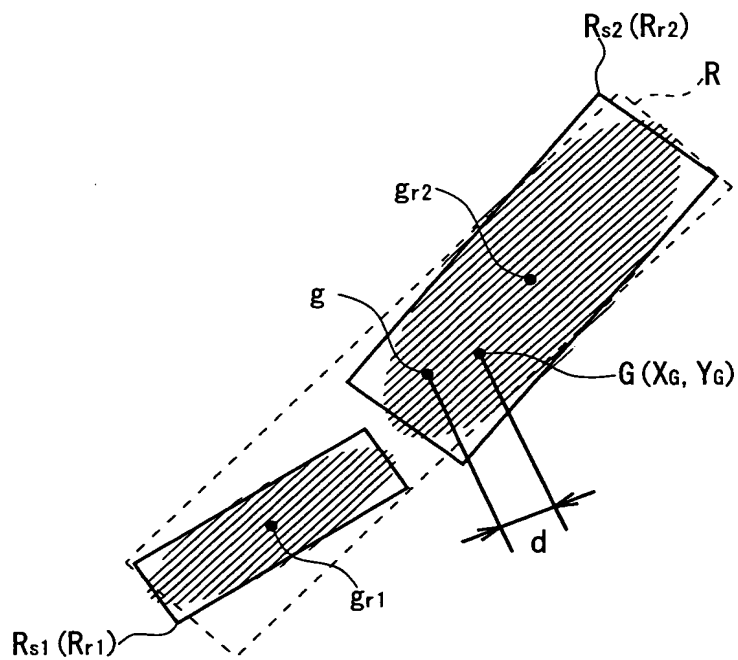
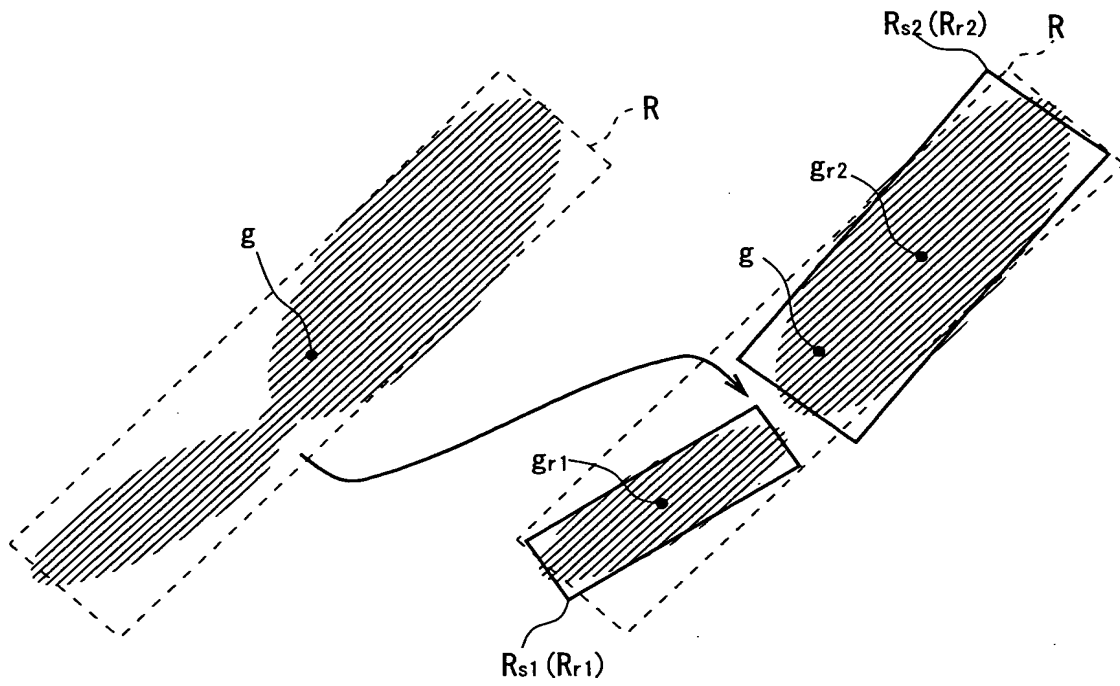
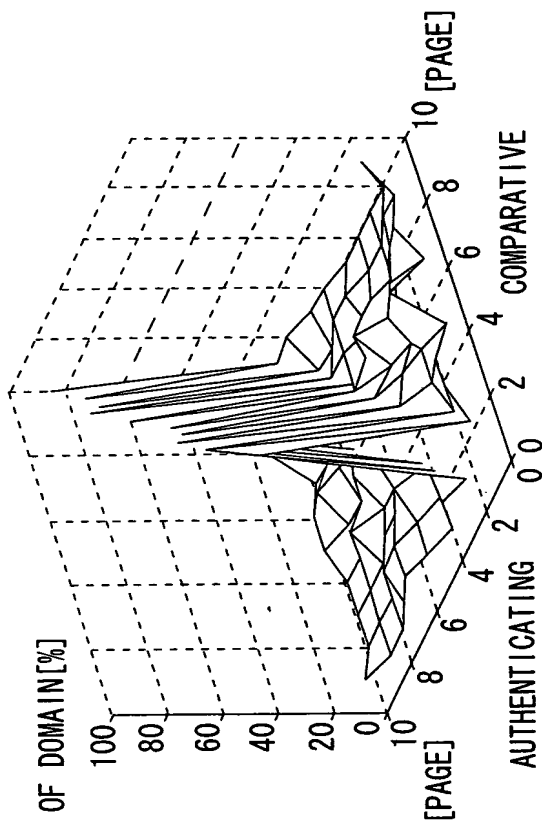


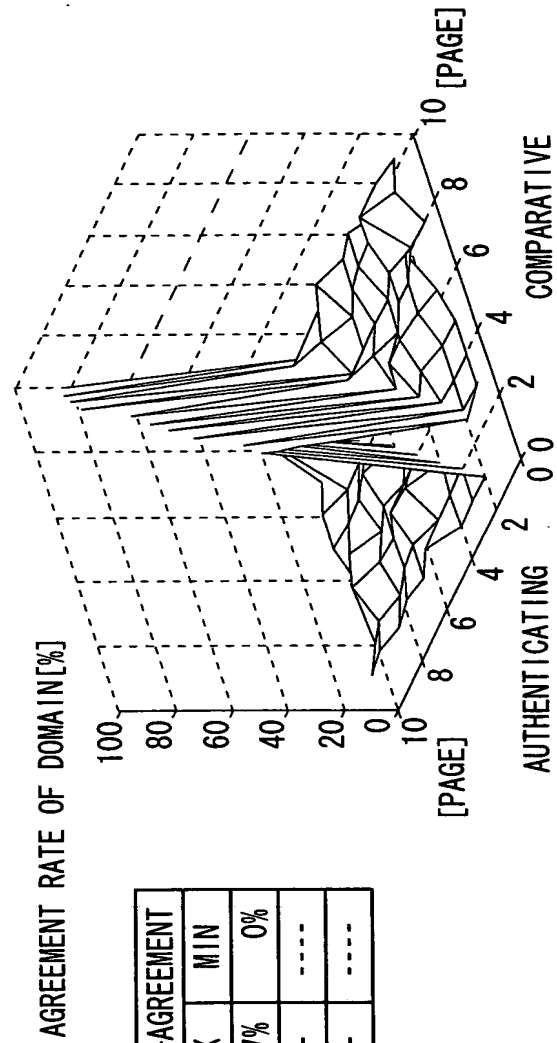
FIG. 18



WHITE DOMAIN	AGREEMENT		NON-AGREEMENT	
	MAX	MIN	MAX	MIN
PROCESSING OPERATION 1	92.3%	69.6%	16.7%	0%
PROCESSING OPERATION 2	96.2%	69.6%	----	----
PROCESSING OPERATION 3	96.2%	80.8%	----	----

(A)

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BLACK DOMAIN	AGREEMENT		NON-AGREEMENT	
	MAX	MIN	MAX	MIN
PROCESSING OPERATION 1	90.0%	57.9%	16.7%	0%
PROCESSING OPERATION 2	90.0%	66.7%	----	----
PROCESSING OPERATION 3	100%	81.0%	----	----

(B)

FIG. 19



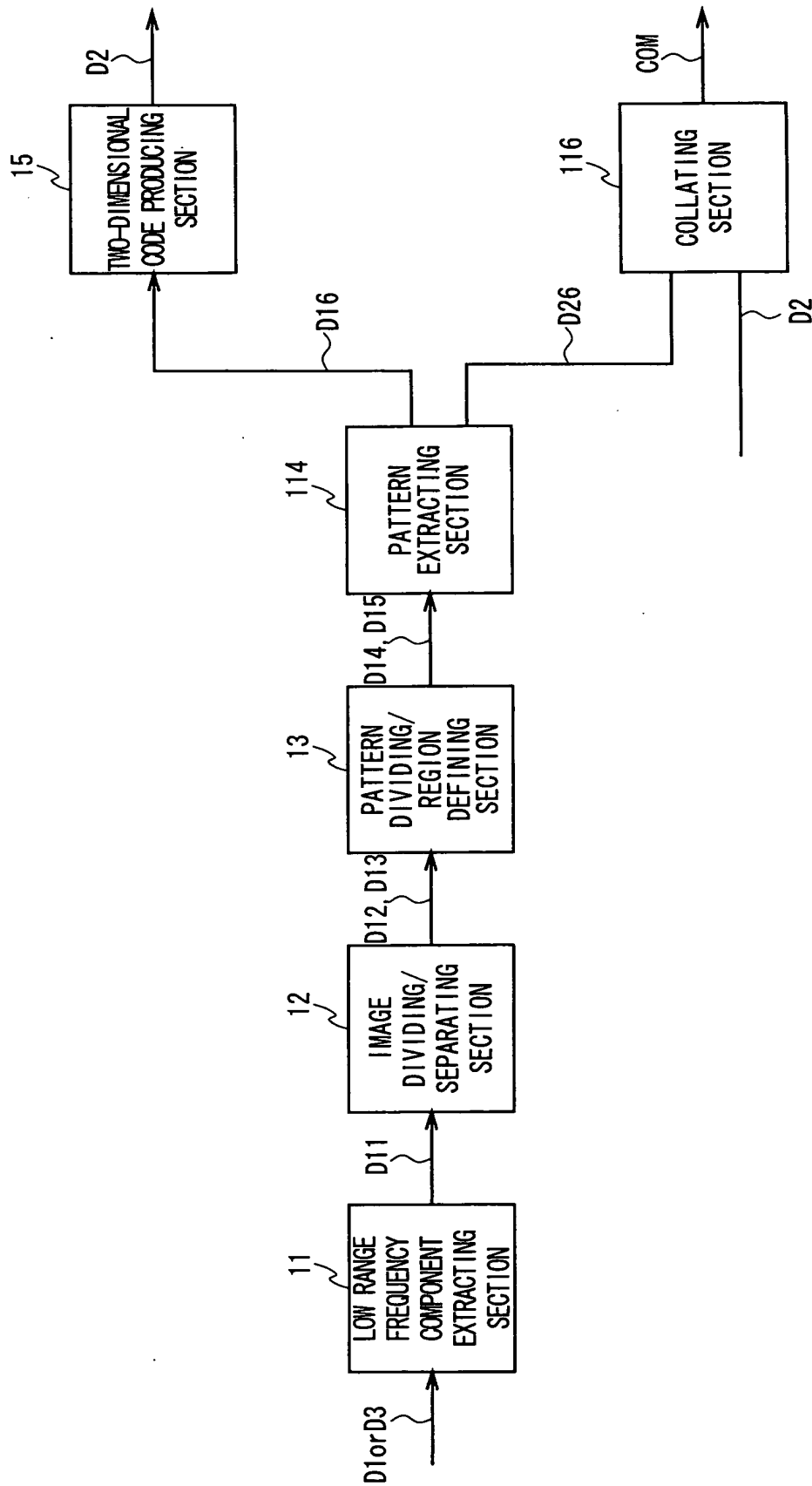


FIG. 20

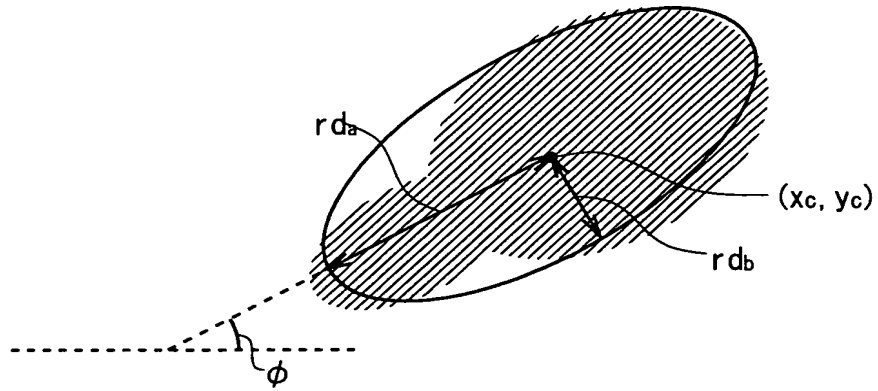


FIG. 21

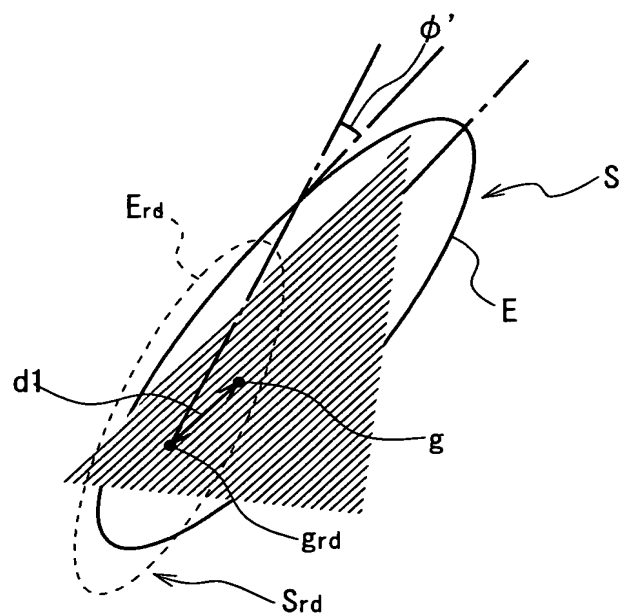


FIG. 22

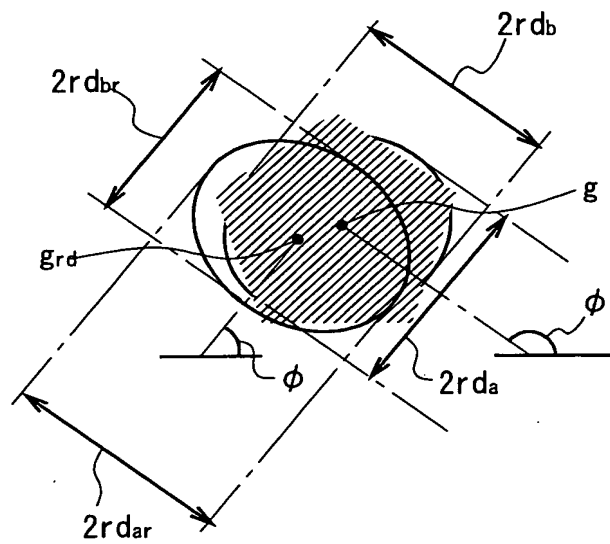


FIG. 23

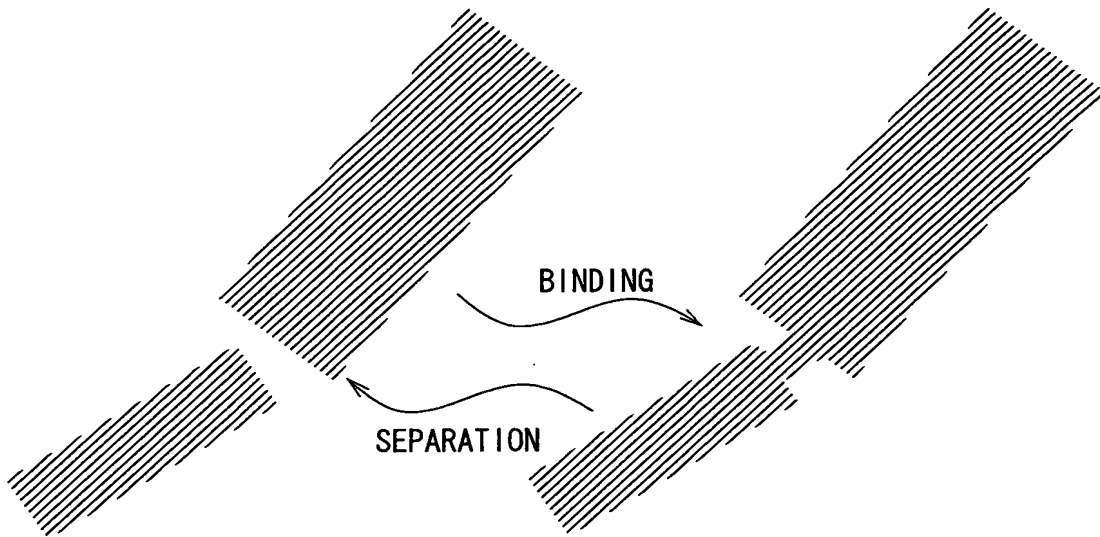


FIG. 24

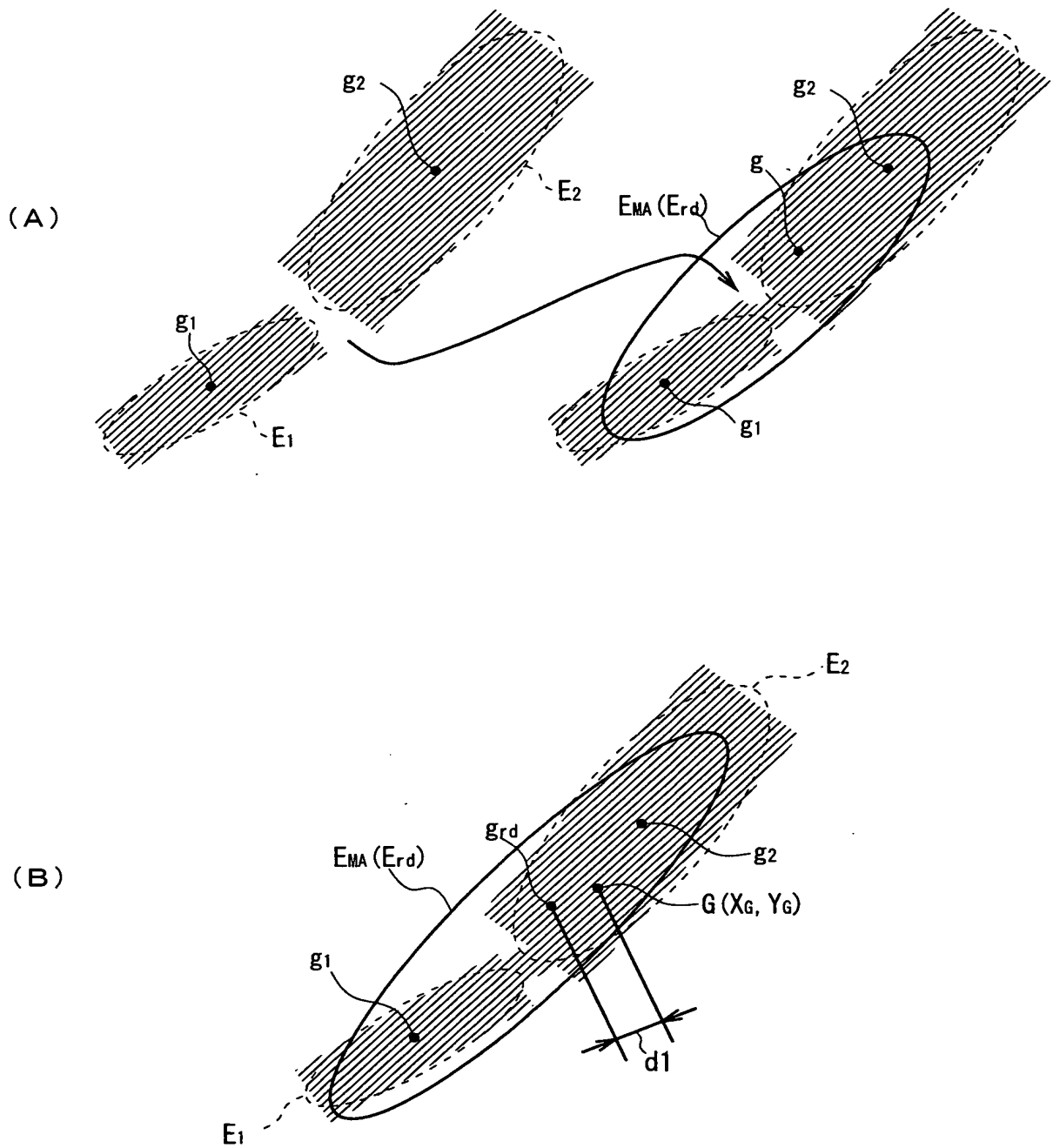


FIG. 25

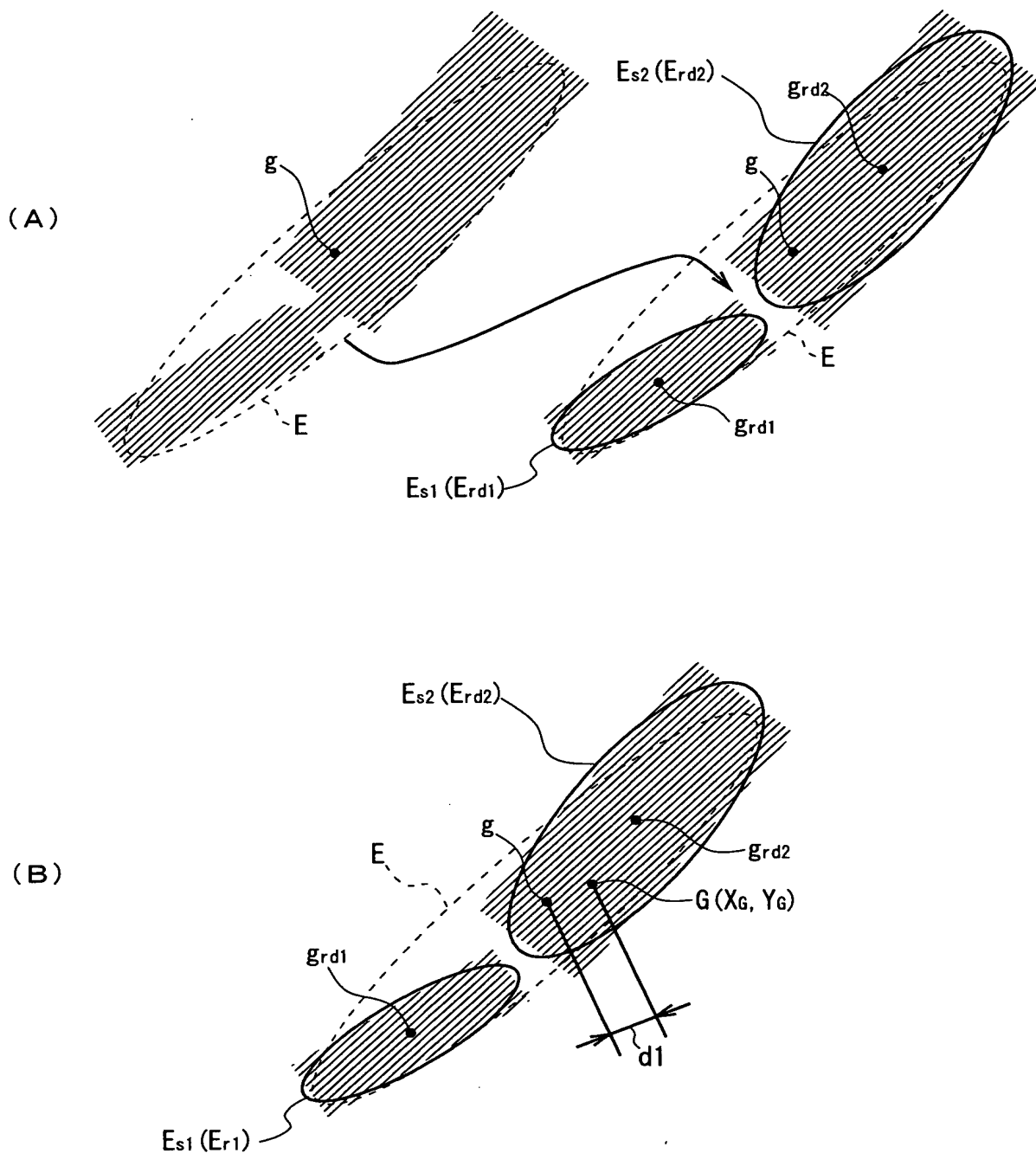


FIG. 26

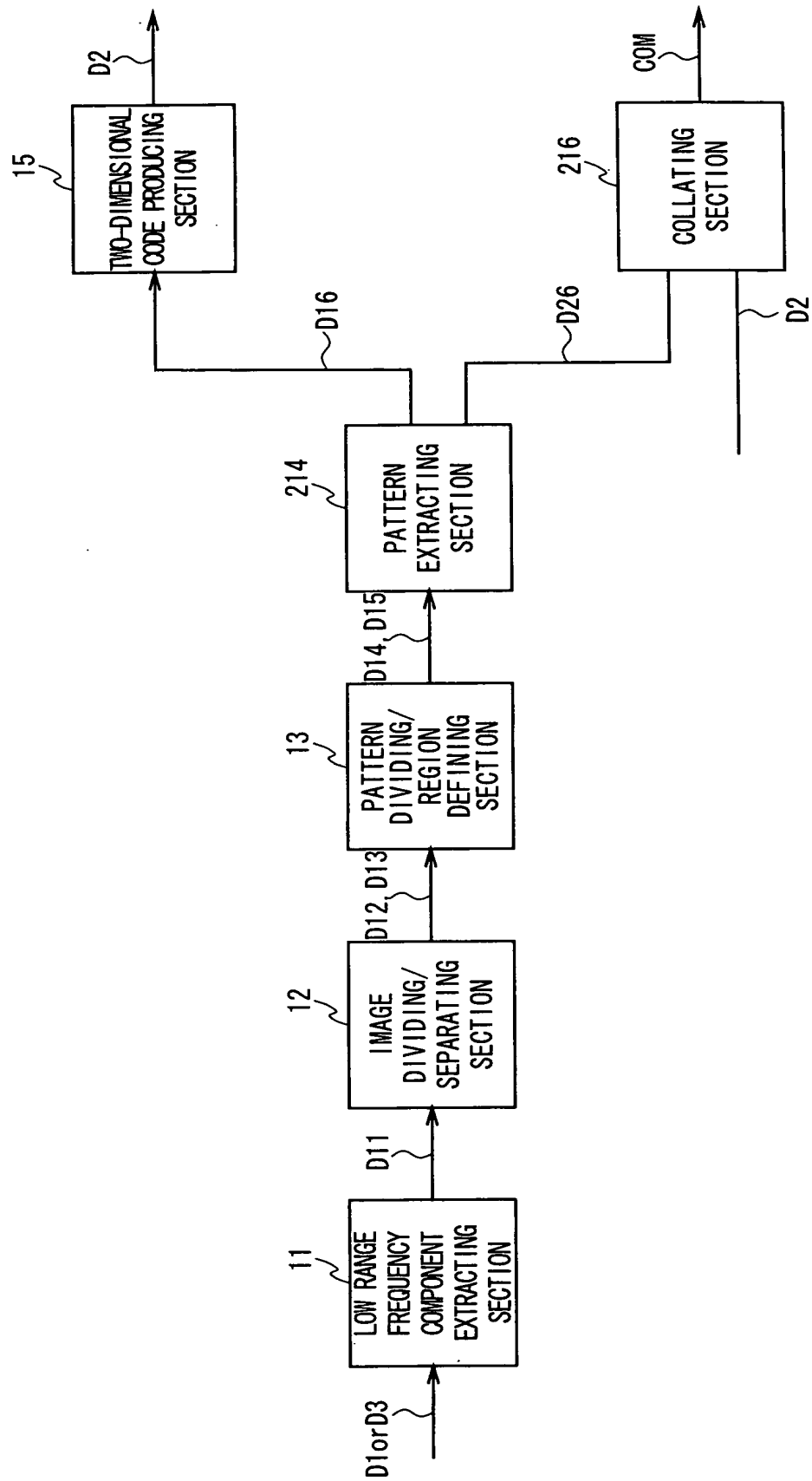


FIG. 27



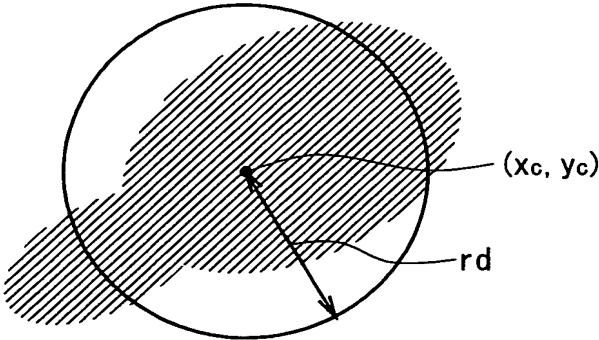


FIG. 28

	RANGE OF DATA	DATA SIZE
COORDINATE OF THE CENTER $(x_c, y_c)$	0~1023	$2 \times 16\text{bit}$
RADIUS $r_d$	0~1023	16bit
	TOTAL	48bit

FIG. 29

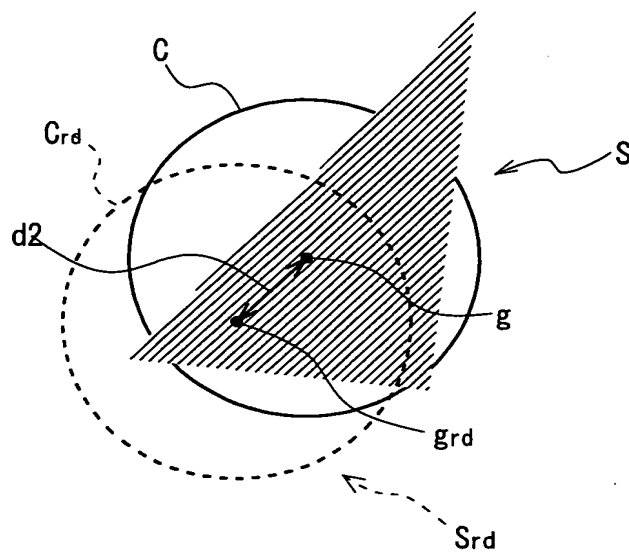


FIG. 30

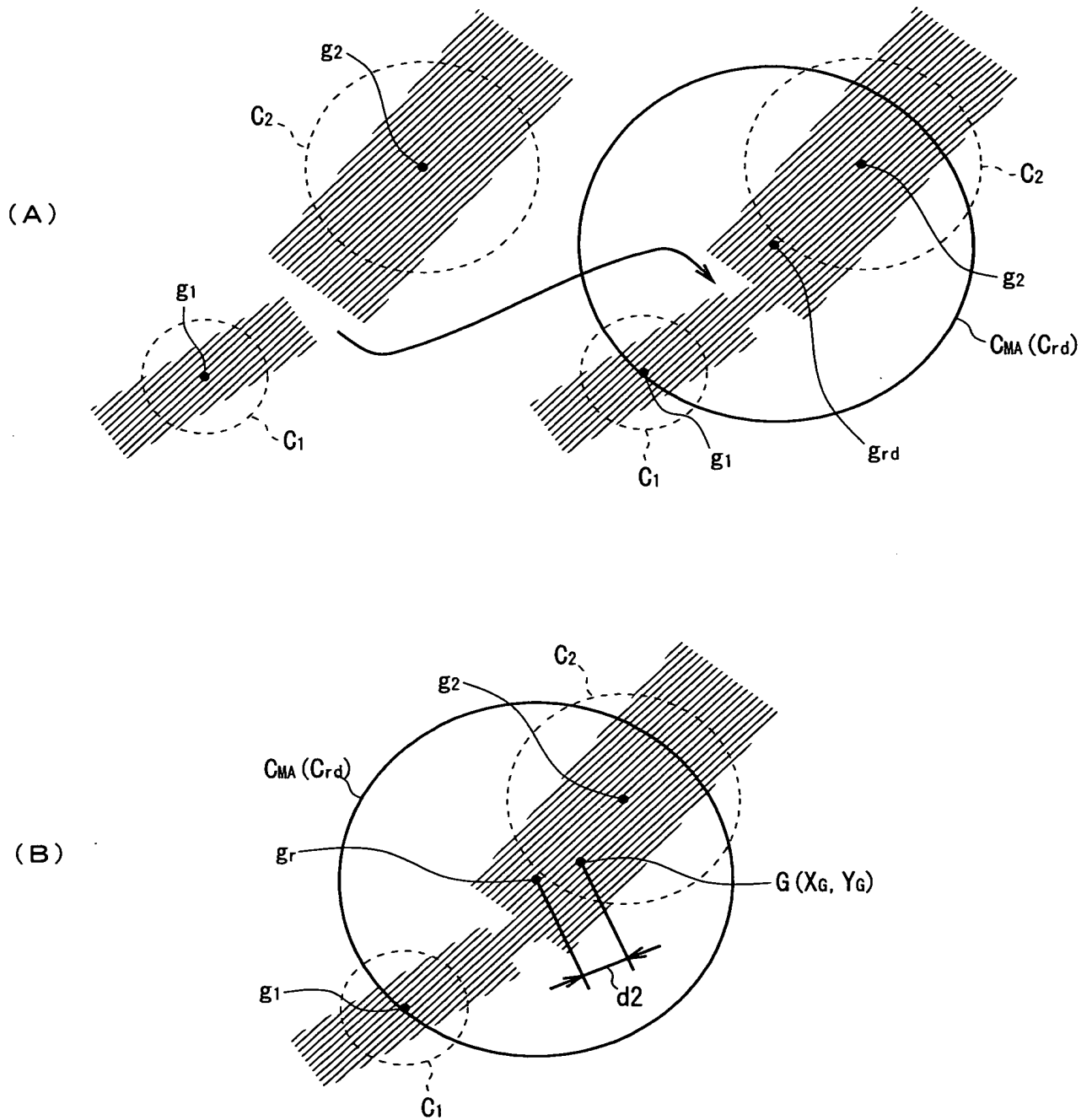


FIG. 31

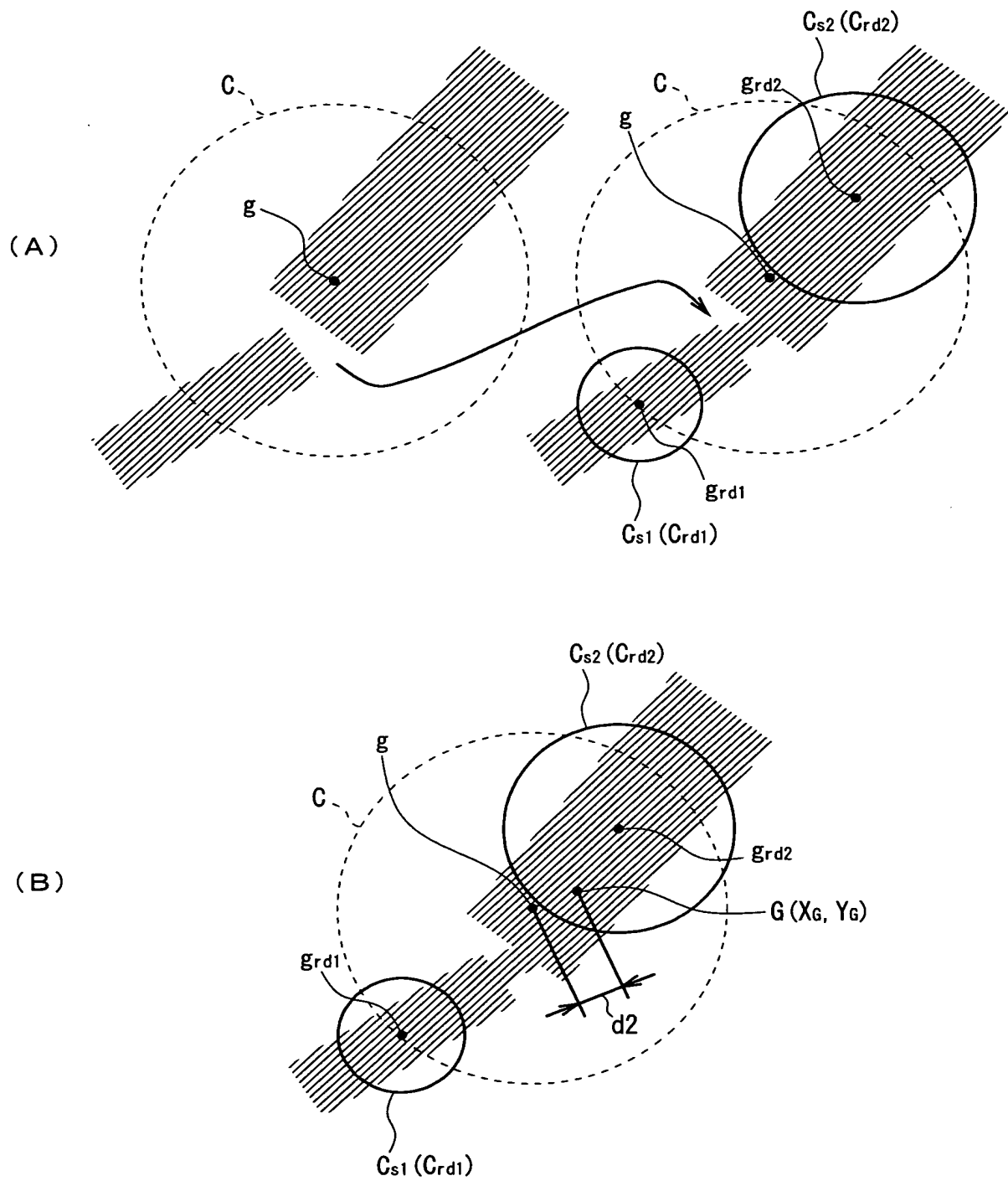


FIG. 32

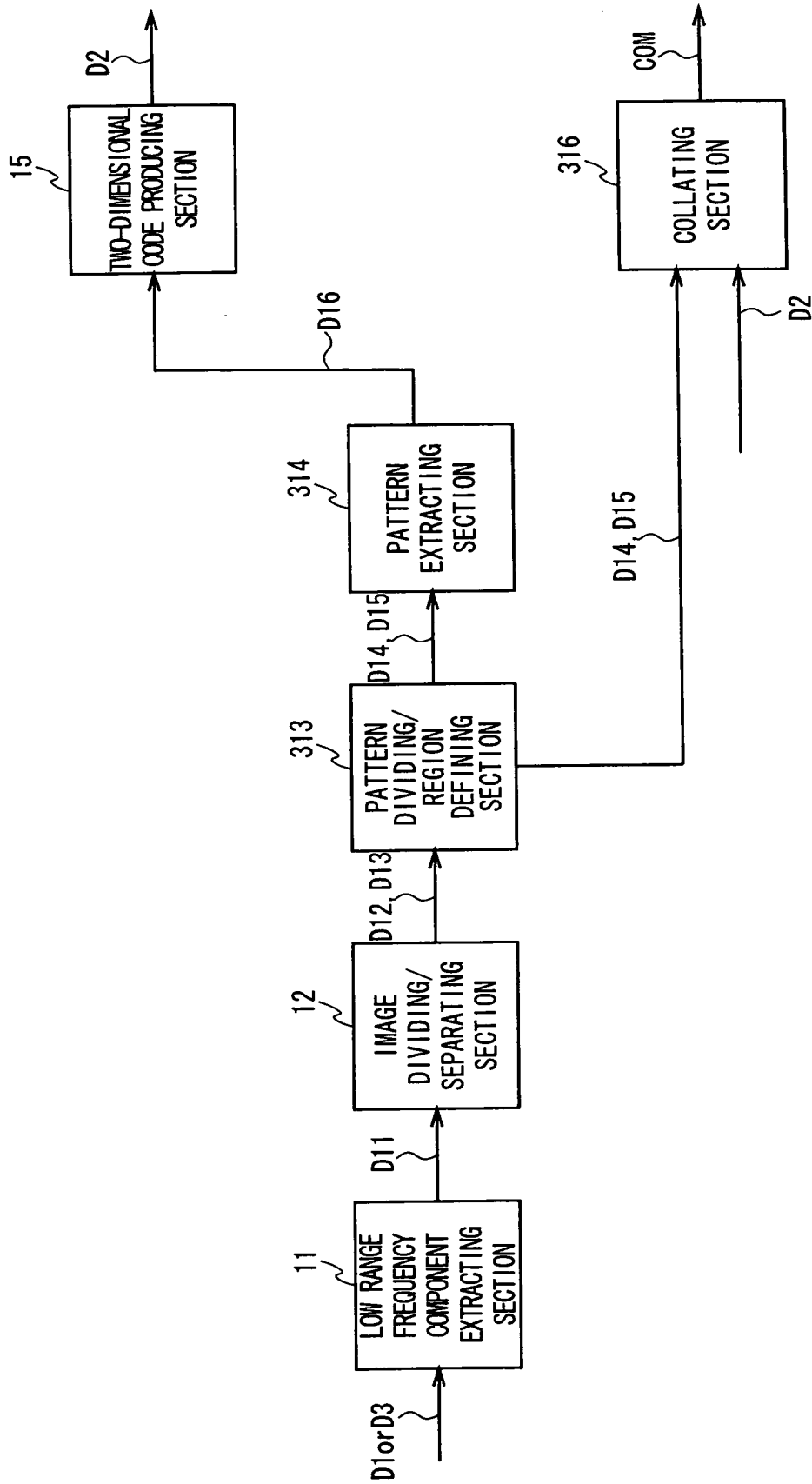


FIG. 33

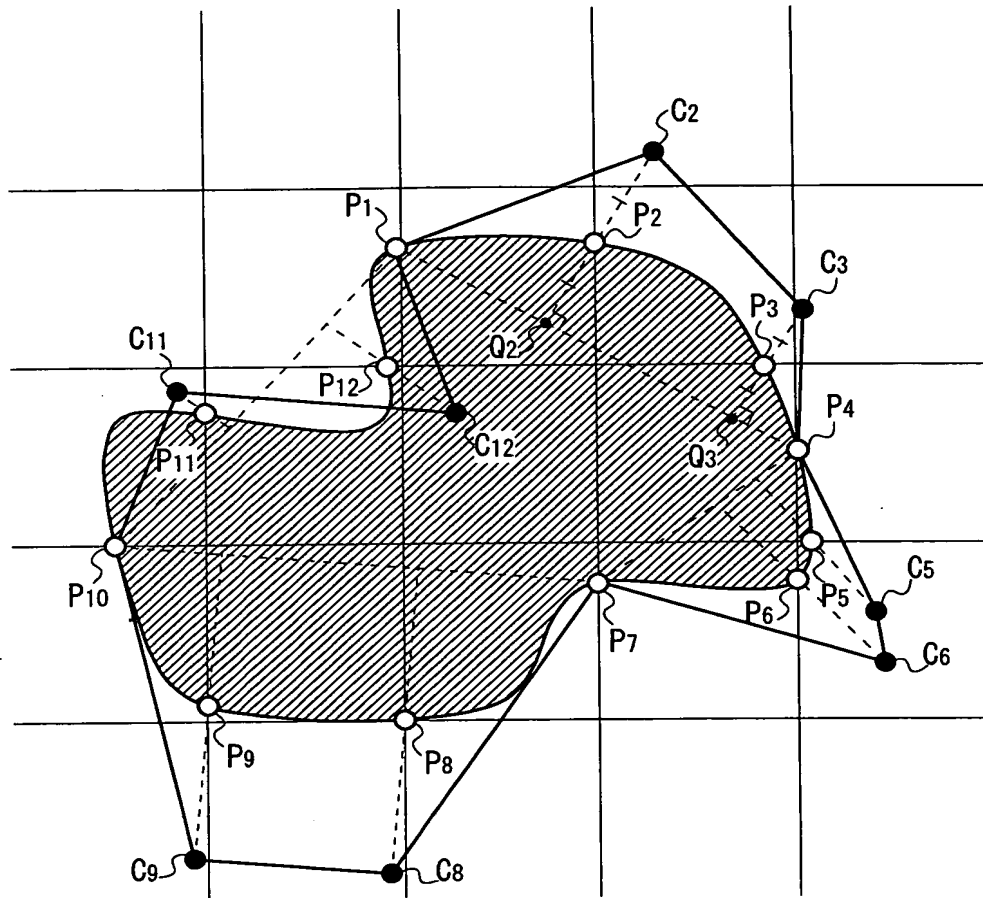


FIG. 34

	RANGE OF DATA	DATA SIZE
COORDINATE OF CONTROL POINT	0~1023	$2 \times 16\text{bit}$
	TOTAL	$32k(n+1)\text{bit}$

FIG. 35

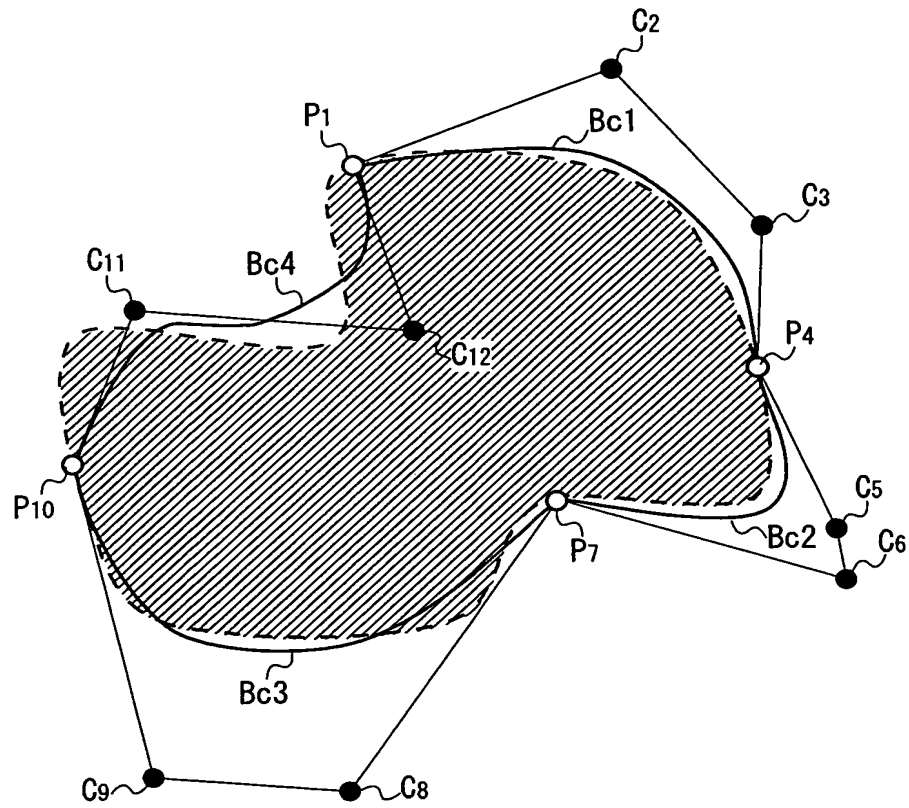


FIG. 36



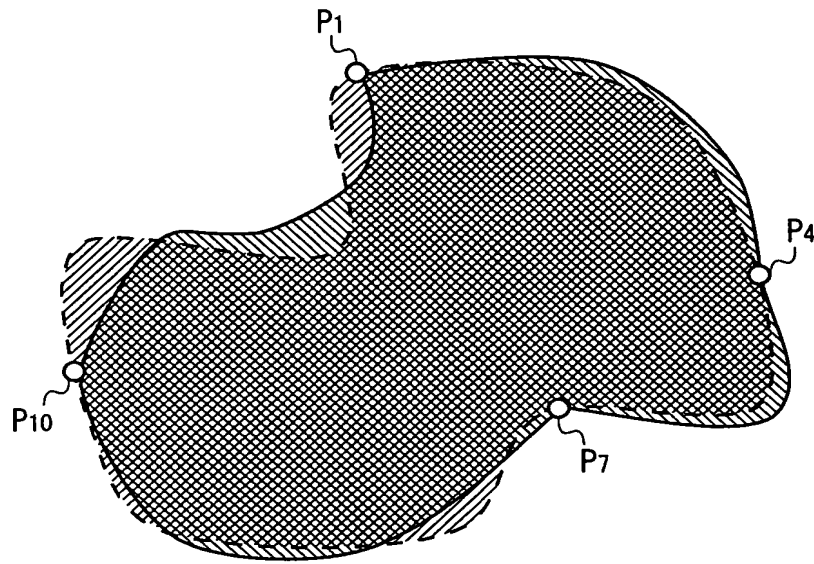
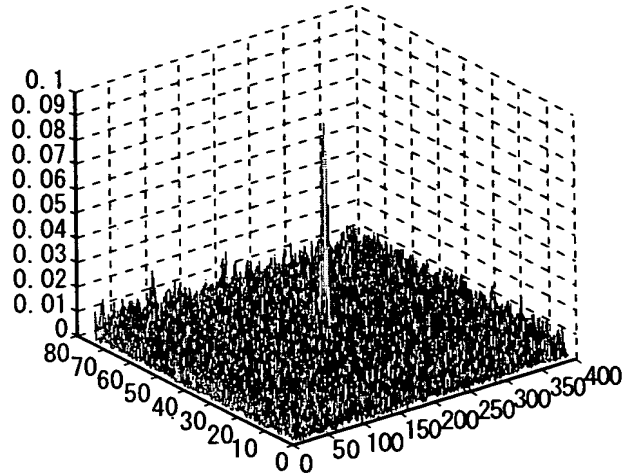


FIG. 37

(A)



(B)

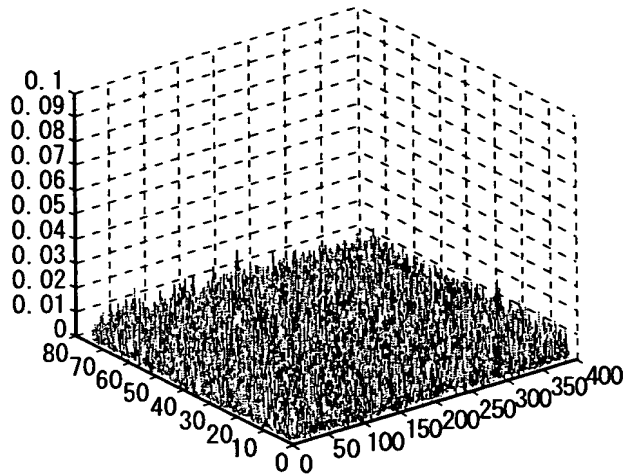


FIG. 38

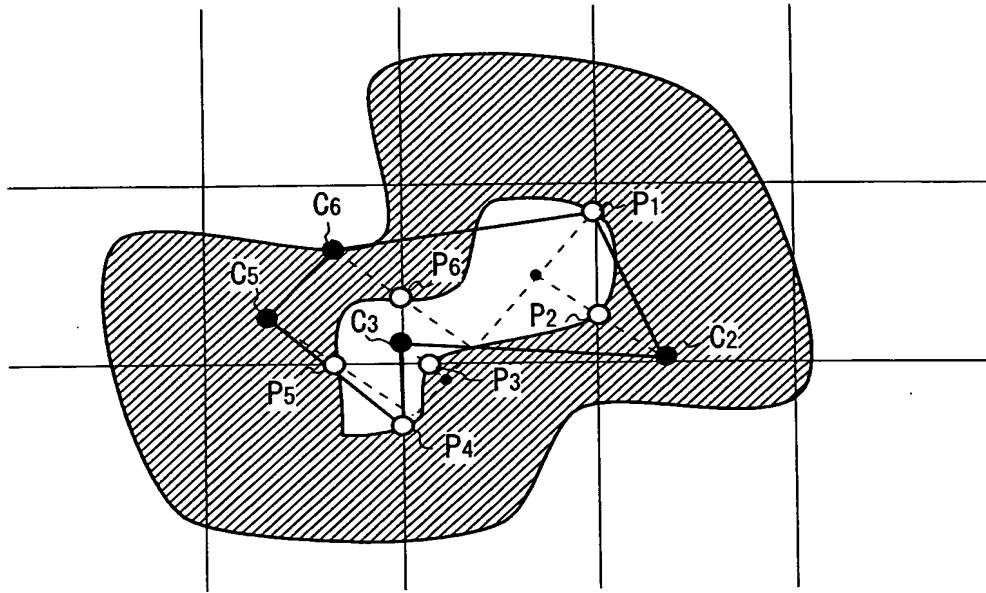


FIG. 39

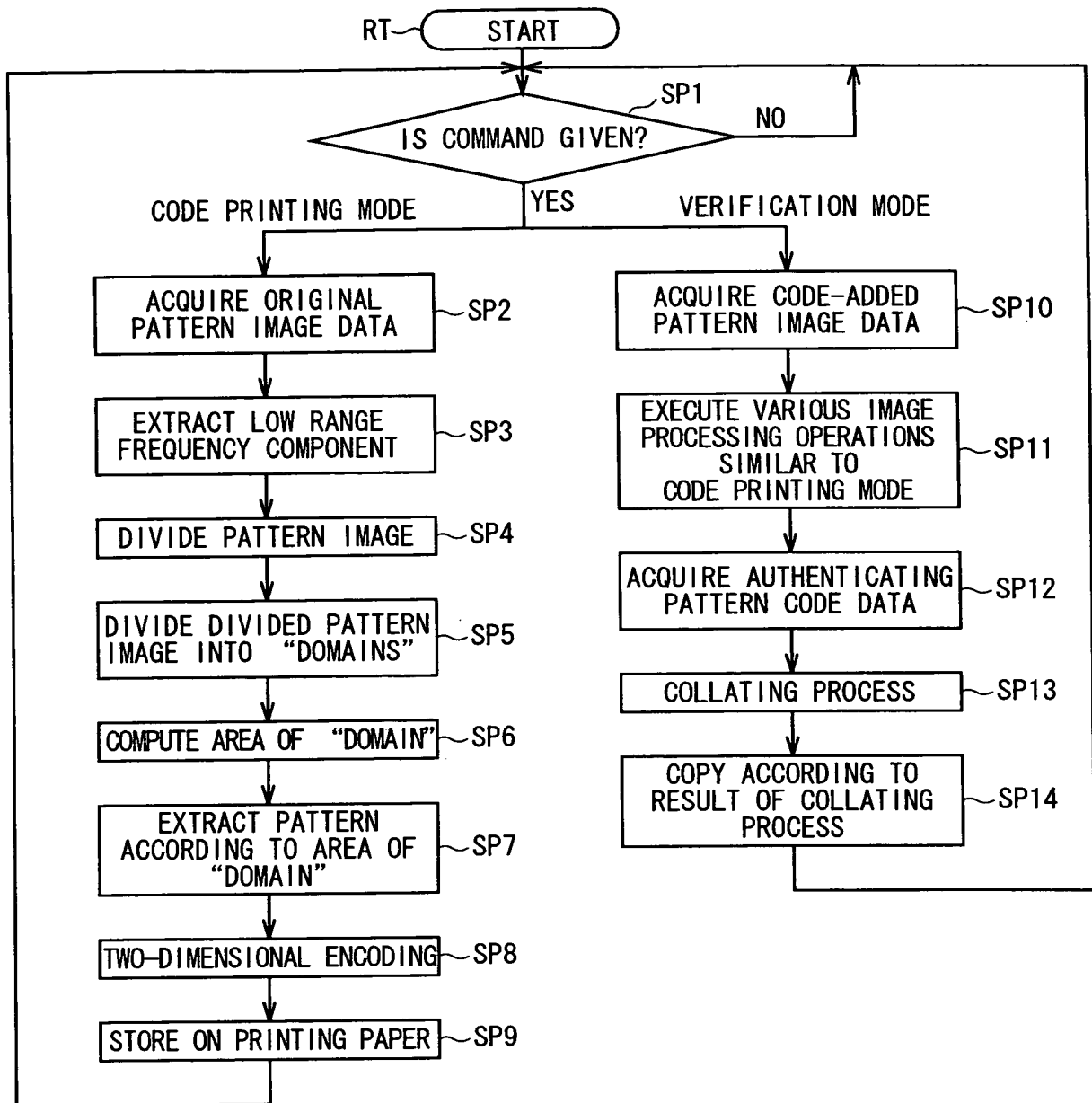


FIG. 40

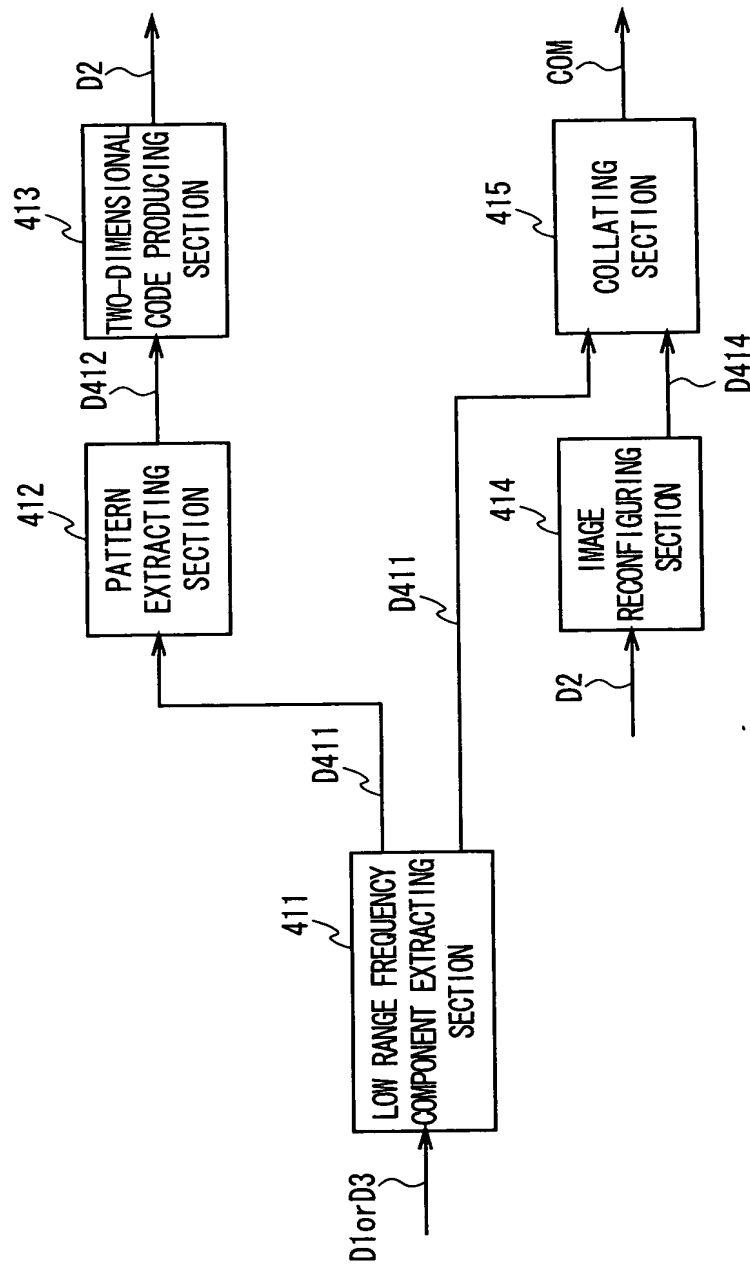


FIG. 41

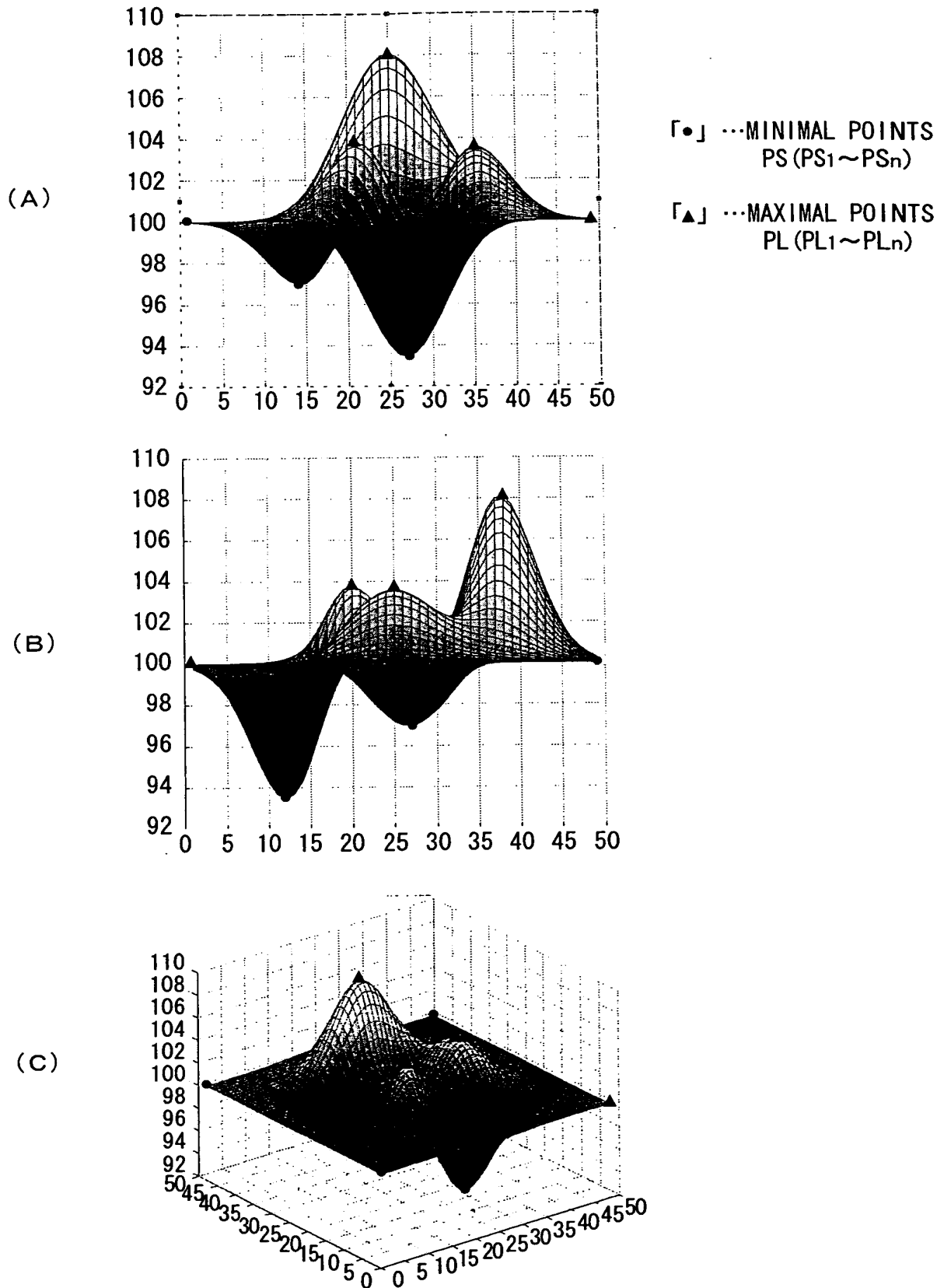


FIG. 43

「●」 ...MINIMAL POINTSPS (PS<sub>1</sub>~PS<sub>n</sub>)  
「▲」 ...MAXIMAL POINTSPL (PL<sub>1</sub>~PL<sub>n</sub>)

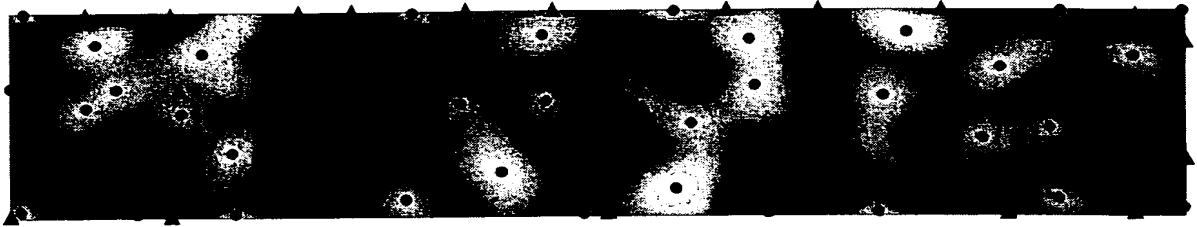


FIG. 42

	RANGE OF DATA	DATA SIZE
POSITION OF THE MINIMAL POINTS OR MAXIMAL POINTS (x <sub>p</sub> , y <sub>p</sub> )	0~1023	2×16bit
LUMINANCE VALUE	0~255	8bit
	TOTAL	40bit

FIG. 44

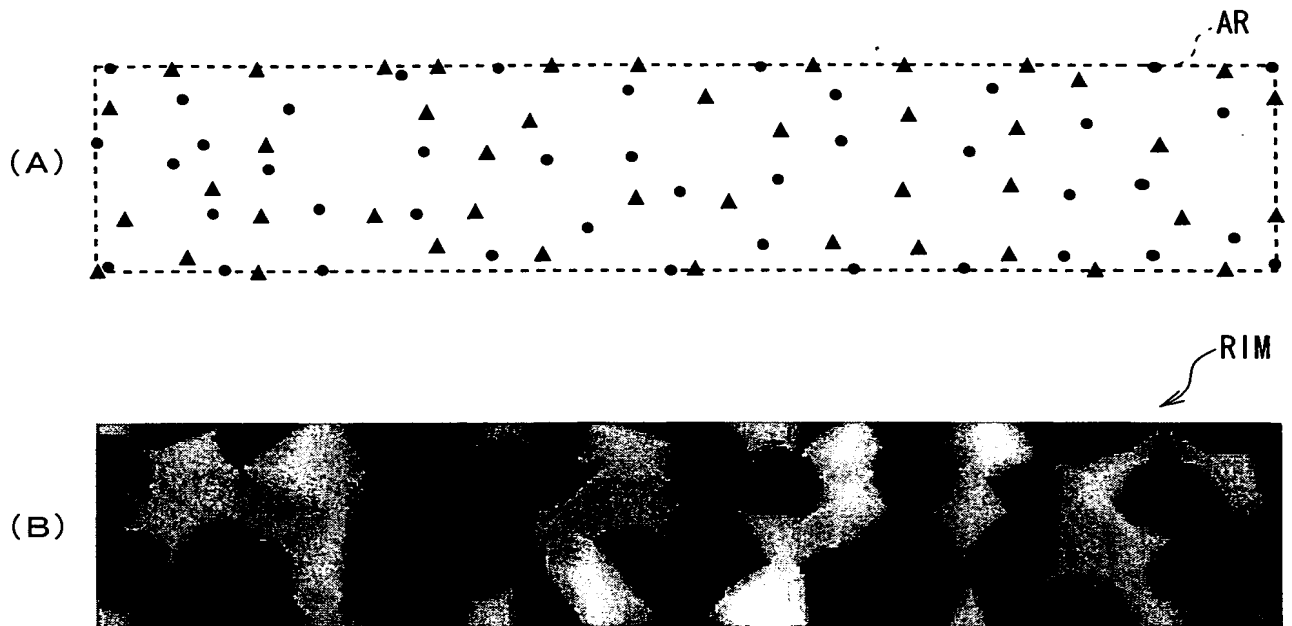


FIG. 45

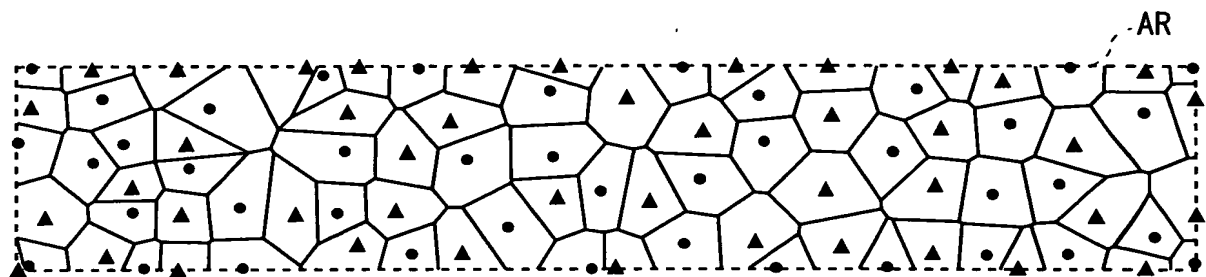


FIG. 46



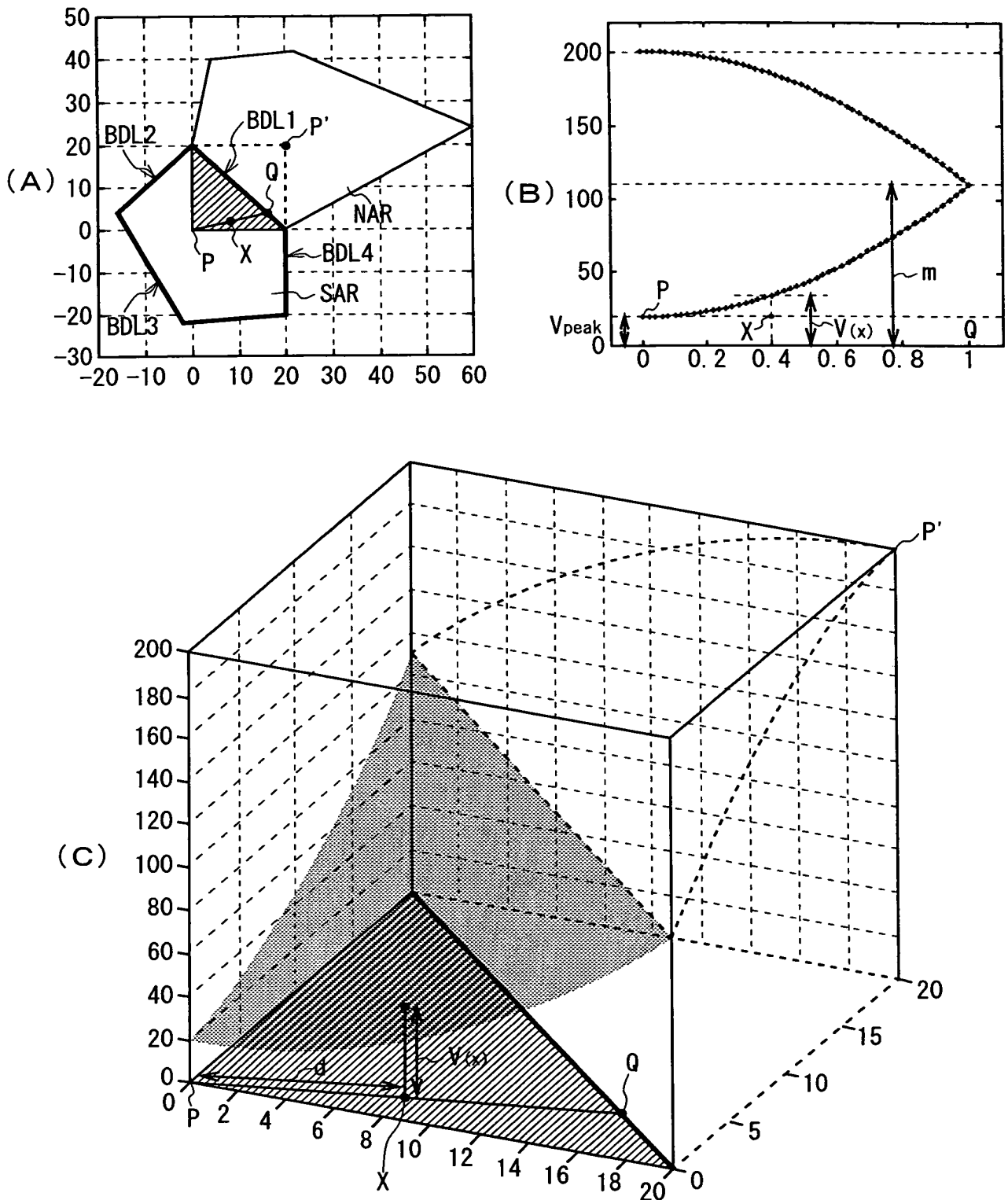


FIG. 47

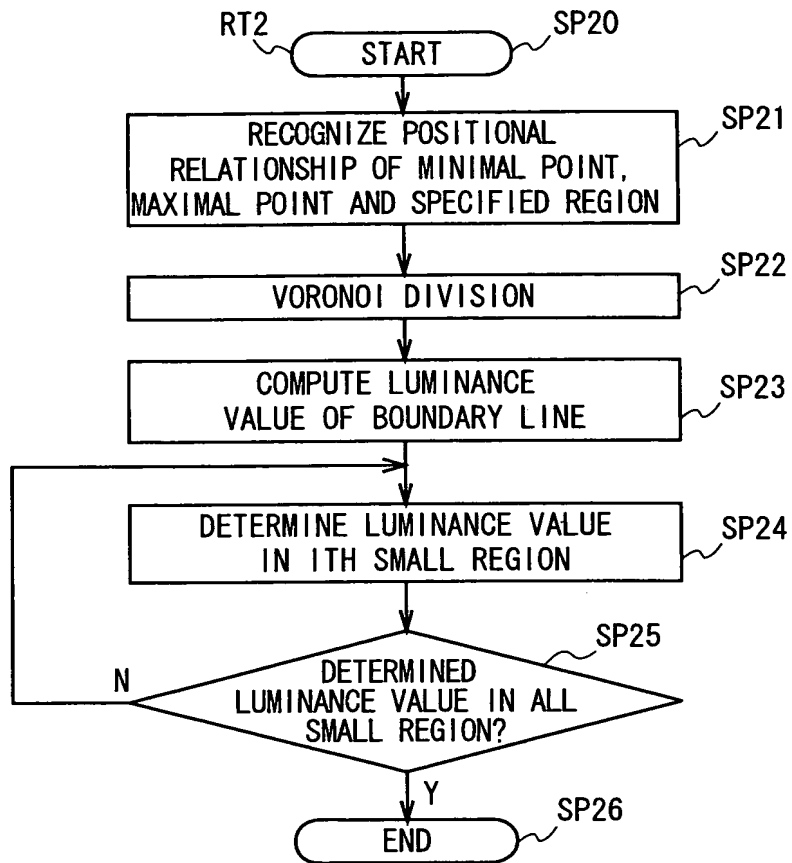


FIG. 48



FIG. 49

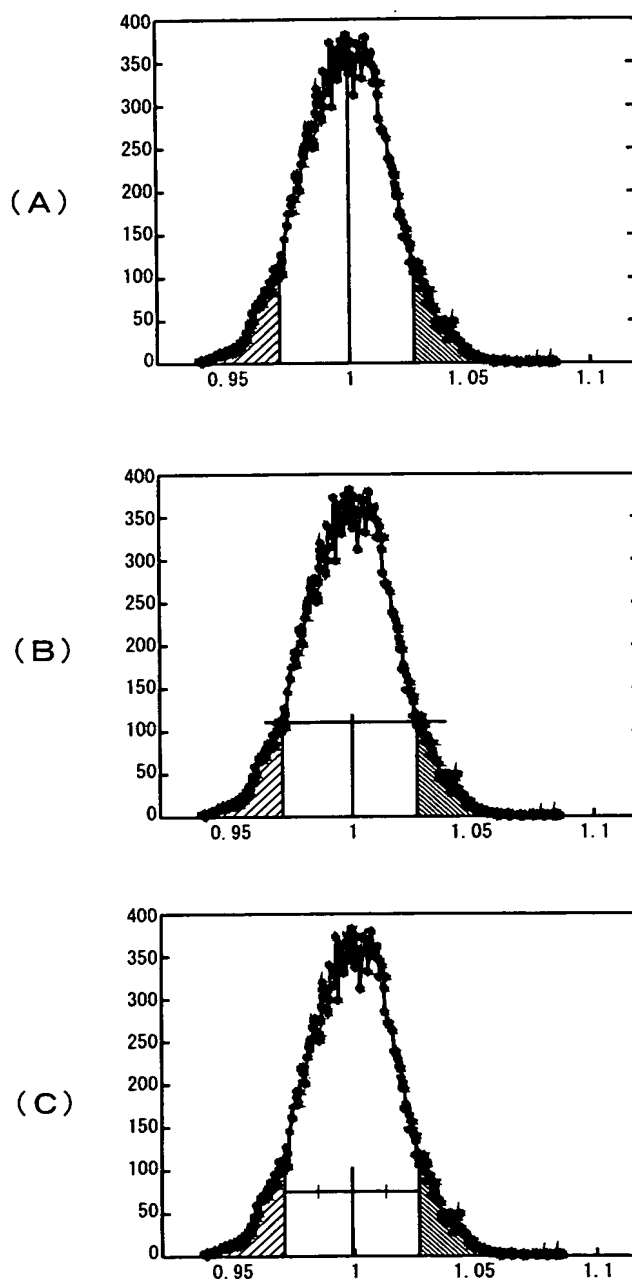


FIG. 50

# EXPLANATION OF REFERENCE NUMERALS

1...UNAUTHORIZED COPYING PREVENTING APPARATUS, 2...CONTROL SECTION,  
4...SCANNER SECTION, 4a...CODE READER, 5...PRINTER SECTION, 11...LOW RANGE  
FREQUENCY COMPONENT EXTRACTING SECTION, 12...IMAGE DIVIDING/SEPARATING SECTION,  
13...PATTERN DIVIDING/REGION DEFINING SECTION, 14...PATTERN EXTRACTING SECTION,  
15...TWO-DIMENSIONAL CODE PRODUCING SECTION, 16...COLLATING SECTION, D1...PATTERN  
IMAGE DATA, D2... AUTHENTICATING PATTERN CODE DATA, D3... CODE-ADDED PATTERN IMAGE  
DATA, D4... PRINTED CONTENTS IMAGE DATA, D11... LOW RANGE PATTERN IMAGE DATA, D12...  
WHITE COMPONENT PATTERN IMAGE DATA, D13... BLACK COMPONENT PATTERN IMAGE DATA, D14...  
WHITE DOMAIN DATA, D15... BLACK DOMAIN DATA, D16... AUTHENTICATING PATTERN DATA,  
D26... COMPARATIVE PATTERN DATA, OP... ORIGINAL PRINTING PAPER, XPc... CODE-ADDED  
PRINTING PAPER, AR... SPECIFIED AREA, BC...AUTHENTICATING PATTERN CODE,  
IM1...REGION PATTERN IMAGE, IM2... LOW RANGE PATTERN IMAGE, WIM...WHITE COMPONENT  
PATTERN IMAGE, BIM...BLACK COMPONENT PATTERN IMAGE, WD (WD<sub>1</sub> THROUGH WD<sub>n</sub>)... WHITE  
DOMAIN, BD (BD<sub>1</sub> THROUGH BD<sub>n</sub>)... BLACK DOMAIN